


In re Patent Application of:
DENNIS
Serial No. **Not Yet Assigned**
Filing Date: **Herewith**

that narrow the claim scope for any reason related to the statutory requirements for patentability. Accordingly, after the Examiner completes a thorough examination and finds the claims patentable, a Notice of Allowance is respectfully requested in due course. Should the Examiner determine any minor informalities that need to be addressed, he is encouraged to contact the undersigned attorney at the telephone number below.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached paper is captioned "Version With Markings to Show Changes Made."

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at page 2, line 16 has been amended as follows:

[The invention, in its various aspects, is defined in the Claims appended hereto.] In view of the foregoing background, an object of the present invention is to store reference data in a solid state image sensor.

This and other objects, advantages and features in accordance with the present invention are provided by a method of encoding data in a solid state image sensor comprising an array of pixels. The method preferably comprises applying color processing to the array of pixels, with the array of pixels comprising a plurality of border pixels. The method preferably further comprises varying the color processing applied to the plurality of border pixels for encoding data therein.

In one approach for the color processing, the color processing is applied by applying a color filter mosaic to the array of pixels. The color processing is varied by varying a pattern of the color filter mosaic applied to the plurality of border pixels. The color filter mosaic may comprise color filter material, and variation of the pattern of the color filter mosaic comprises removing the color filter material from selected border pixels. The color filter mosaic may also comprise a plurality of color filter layers, and variation of the pattern of the color filter mosaic comprises applying the

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plurality of color filter layers to selected border pixels.

The color filter mosaic may comprise a Bayer pattern color filter mosaic that is based upon a plurality of color filter elements. Variation of the pattern of the color filter mosaic comprises encoding one bit of binary data in two adjacent blocks of four pixels of the Bayer pattern color filter mosaic by varying the color filter elements applied to one pixel of one of the two adjacent blocks.

In another approach for the color processing, the color processing is applied by applying a microlens array to the array of pixels. Variation of the color processing comprises varying a pattern of the microlens array applied to the plurality of border pixels.

The method according to the present invention advantageously allows reference data to be encoded in the border pixels instead of within the chip circuitry. It is not practical to record such data in the chip circuitry during manufacture of an image sensor since the details of the subsequent color processing may not be known at the time of manufacture. The encoded data may include a color process code, a mask revision code, a product code, and at least one of a start code and an end code.

Another aspect of the invention is directed to a method of reading data encoded in a solid state image sensor comprising an array of pixels. The data has been encoded in the solid state image sensor by applying color processing to the array of pixels, with the array of pixels comprising a plurality of border pixels, and by varying the color processing applied to the plurality of border pixels for

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encoding the data therein. The method comprises illuminating the array of pixels, and processing signals output from the plurality of border pixels, with the signals corresponding to the encoded data.

Yet another aspect of the present invention is directed to a solid state image sensor system comprising an array of pixels comprising a plurality of border pixels, with the plurality of border pixels having data encoded therein by color processing.

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